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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,774	01/15/2004	Daniel K. Zitting	2822-6022US (01-2)	5475
24247	7590	05/22/2006	EXAMINER	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			LEE, GILBERT Y	
			ART UNIT	PAPER NUMBER
			3673	

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/757,774	<b>Applicant(s)</b> ZITTING ET AL.	
	<b>Examiner</b> Gilbert Y. Lee	<b>Art Unit</b> 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14, 49-69 and 91-100 is/are pending in the application.
- 4a) Of the above claim(s) 5, 10-12, 56, 61, 64-68, 93-98 and 100 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-8, 49, 50, 52-55, 57-60, 69, 91 and 99 is/are rejected.
- 7) ☒ Claim(s) 4, 9, 13, 14, 51, 62, 63 and 92 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Examiner's Attachment</u>              |

## DETAILED ACTION

1. The amendment filed 3/9/06 has been entered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Note please see Examiner's Attachment for reference characters A and B regarding the first and second flanges.

2. Claims 1-3, 6-8, 49, 50, 52-55, 57-60, 69, 91, and 99 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawai et al. (US Patent No. 5,050,892).

Regarding claim 1, the Kawai et al. reference discloses a sleeve element (10B) for sealing between a piston (20) and a bore surface (30a) comprising:

a substantially annular body (Fig. 5) including an inner surface, an outer surface, a first end region (region at left most element 14), and a second end region (region at right most element 14);

wherein at least a portion of the first end region of the annular body is configured to be biased laterally into a recess (recesses formed with surface 21);

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at least one sealing feature (14); and

at least one depression (13) wherein at least a portion of the at least one depression is sized, located and configured to lie over the at least one recess (Fig. 6) to provide increased lateral flexure for the biasing of the at least a portion of the first end region into the at least one recess (Fig. 6).

Regarding claim 2, the Kawai et al. reference discloses a bearing surface (surface of elements 14 in contact with bore surface 30a).

Regarding claims 3, 6, 50, and 54, the Kawai et al. reference discloses the sleeve element comprising PTFE (Col. 3, Lines 63-67). Note that PTFE is known to be resilient and will allow the seal to be compressed.

Regarding claim 7, the Kawai et al. reference discloses a first sealing feature (left most element 14) configured to be biased laterally into a first recess (recess under left most element 14).

Regarding claim 8, the Kawai et al. reference discloses a second sealing feature (right most element 14) configured to be biased laterally into a second recess (recess under right most element 14).

Regarding claim 49, the Kawai et al. reference discloses a seal assembly (Fig. 5) for sealing between a piston element (20) and a bore surface (30a) comprising:

a piston element having a surface (Fig. 5);

a sleeve element (10B) positioned between the piston element surface and a bore surface disposed thereabout, the sleeve element having an inner and an outer

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surface (Fig. 5), a first end region (region at left most element 14), and a second end region (region at right most element 14);

a first recess (left most recess formed with surface 21) formed in the piston element surface; and

at least one depression (13) wherein at least a portion of the at least one depression is sized, located and configured to lie over the at least one recess (Fig. 6) to provide increased lateral flexure for the biasing of the at least a portion of the first end region into the at least one recess (Fig. 6);

wherein at least a portion of the first end region of the sleeve element is laterally adjacent to the first recess (fig. 5) and is configured to be biased laterally into recess (Fig. 6);

wherein the sleeve element includes a first sealing feature (14) extending from the outer surface thereof (Fig. 5), proximate to the at least a portion of the first end region configured to biased laterally into the first recess (Fig. 6), the first sealing feature configured to sealingly engage against the bore surface (Figs. 5 and 6).

Regarding claim 52, the Kawai et al. reference discloses the outer surface of the sleeve element (10B) as a bearing surface (Figs. 5 and 6).

Regarding claim 53, the Kawai et al. reference discloses a sleeve element sized and configured to engage the piston element surface with the inner surface of the annular body (Figs. 5 and 6).

Regarding claim 55, the Kawai et al. reference discloses the sleeve element on the surface of the piston element (Col. 5, Lines 57-61).

Regarding claims 57 and 60, the Kawai et al. reference discloses a first sealing region (sealing region at left most element 14) configured to be biased laterally into a first recess (left most recess formed with surface 21) and a second sealing region (sealing region at right most element 14) configured to be biased laterally into a second recess (right most recess formed with surface 21). Note that if enough pressure is generated by the bore, that the elements 14 would be biased into their respective recesses.

Regarding claim 58, the Kawai et al. reference discloses a second recess (right most recess formed with surface 21) and a second sealing feature (right most element 14) configured to be biased laterally into a second recess (Fig. 6).

Regarding claim 59, the Kawai et al. reference discloses a first (A) and second (B) retention flange formed to exceed the lateral extent of the sleeve element (Figs. 5 and 6).

Regarding claim 69, the Kawai et al. reference discloses that the sleeve element, the first recess, and the second recess are each sized and configured to promote a selected amount of deflection of the first end region of the sleeve element into the first recess and a selected amount of deflection of the second end region of the sleeve element into the second recess (Figs. 6).

Regarding claim 91, the Kawai et al. reference discloses a method of forming a seal between a bore surface (30a) and a piston element surface (22B), the method comprising:

providing a piston element (20) having a surface (22B);

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providing a bore (30) having a surface (30a);

providing a sleeve element (10B) having an inner and outer surface (Fig. 5), an end region (either end region including elements 14), and a sealing feature (14) disposed generally within the end region;

providing a depression (13) in at least one of the inner surface and the outer surface of the sleeve element;

providing a recess (recesses formed with surface 21) formed in one of the bore surface and the piston element surface (Fig. 5);

disposing the sleeve element between the piston element and the bore surface including positioning at least a portion of the depression over the recess (Figs. 5 and 6); and

biasing at least a portion of the end region of the sleeve element into the recess (Fig. 6).

Regarding claim 99, the Kawai et al. reference discloses biasing at least a portion of the end region into a recess formed in the piston element surface by sealingly engaging the bore surface against the sealing feature of the sleeve element (Fig. 6).

Note that if enough pressure is generated by the bore, that the elements 14 would be biased into their respective recesses.

***Allowable Subject Matter***

3. Claims 4, 9, 13, 14, 51, 62, 63, and 92 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

4. Applicant's arguments filed 3/9/06 with respect to claims 91 and 99 regarding the Kawai et al. reference have been fully considered but they are not persuasive.

With respect to the applicant's arguments of the rejections of claims 91 and 99, the Kawai et al. reference clearly shows a piston element (20), a bore (30), a sleeve element (10B), and biasing at least a portion of the end region of the sleeve element into the recess (recesses formed with surface 21). It is clearly shown in Fig. 6 that the end regions are biased into the recesses because the bottom corners of the sealing element are clearly shown at a lower level than in Fig. 5.

5. Applicant's arguments with respect to claims 1-4, 6-9, 13, 14, 49-55, 57-60, 62, 69, 91 and 99 regarding the Sawai reference have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's arguments, see page 20, filed 3/9/06, with respect to claim 92 have been fully considered and are persuasive. The rejection of claim 92 has been withdrawn.



***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gilbert Y. Lee whose telephone number is 571-272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patricia Engle  
SPE  
Art Unit 3673

GL  
5/16/06



Suzanne Dino Barrett  
Primary Examiner

Fig. 2

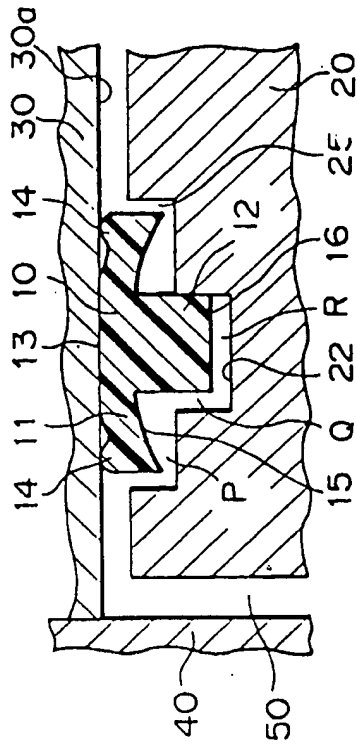


Fig. 6

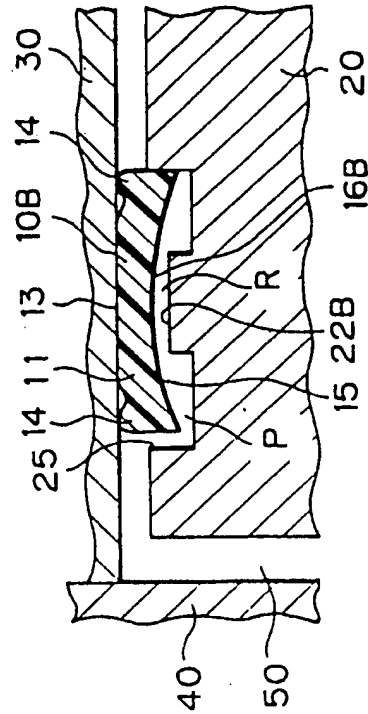


Fig. 1

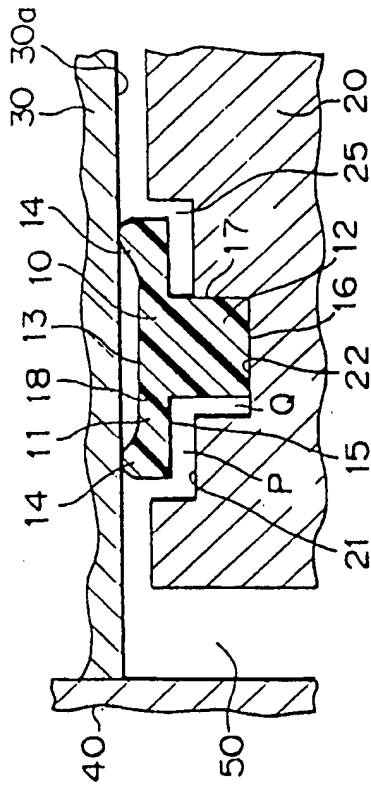


Fig. 5

